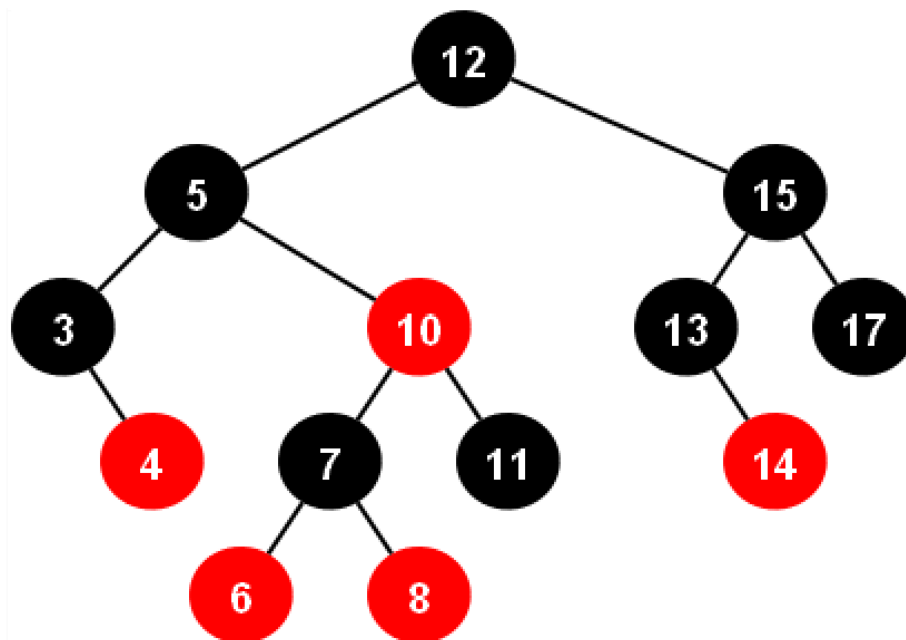


Problem 1

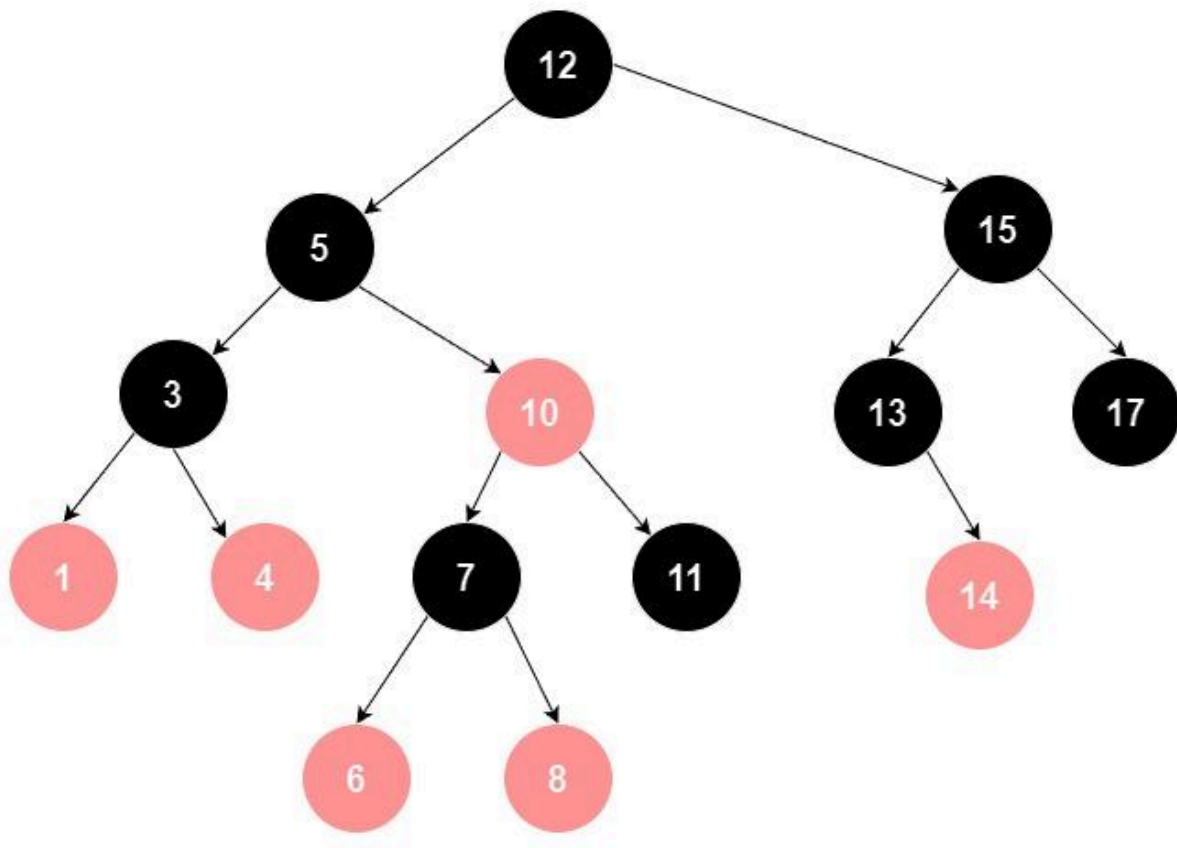
Consider the following initial configuration of a Red-Black Tree:



Draw the tree representation of the Red-Black tree after each of the following operations. Your operations are done in sequence, so your tree should have 17 values in it when you're done. Make sure to clearly indicate each of your final answers including relation

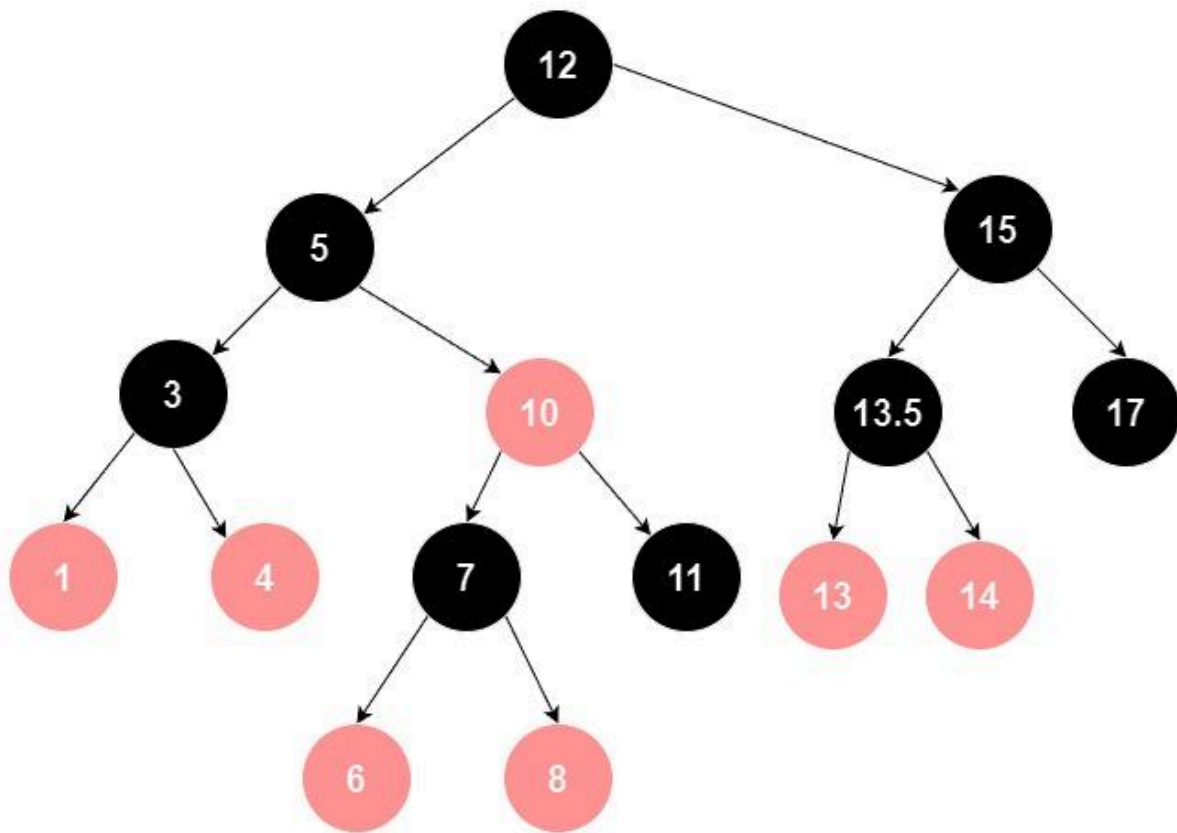
Insert 1

Group members: Marwane Bidamou (4), Eduard Koshkelyan (8), Roshan Maharjan (11)



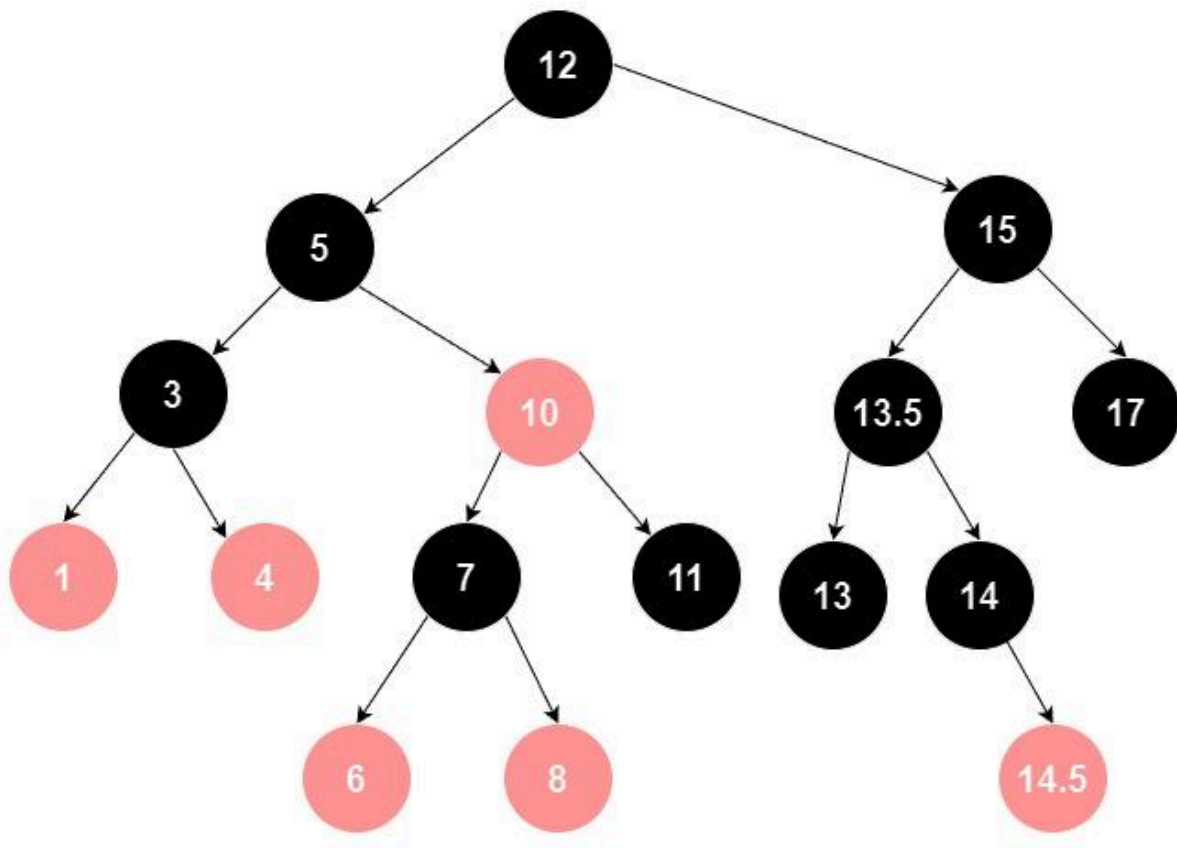
Insert 13.5

Group members: Marwane Bidamou (4), Eduard Koshkelyan (8), Roshan Maharjan (11)



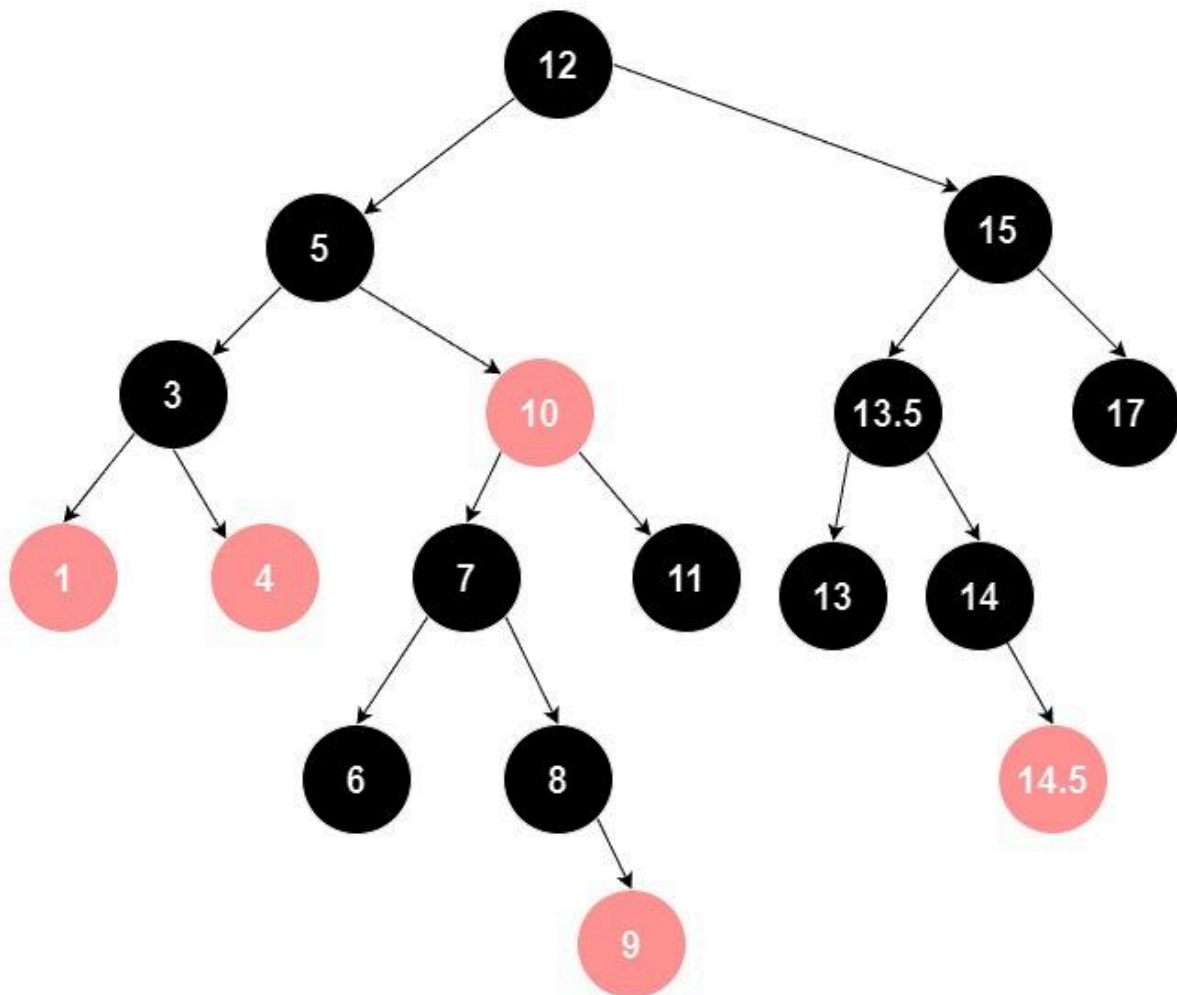
Insert 14.5

Group members: Marwane Bidamou (4), Eduard Koshkelyan (8), Roshan Maharjan (11)



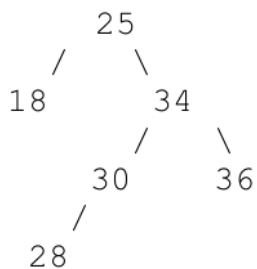
Insert 9

Group members: Marwane Bidamou (4), Eduard Koshkelyan (8), Roshan Maharjan (11)

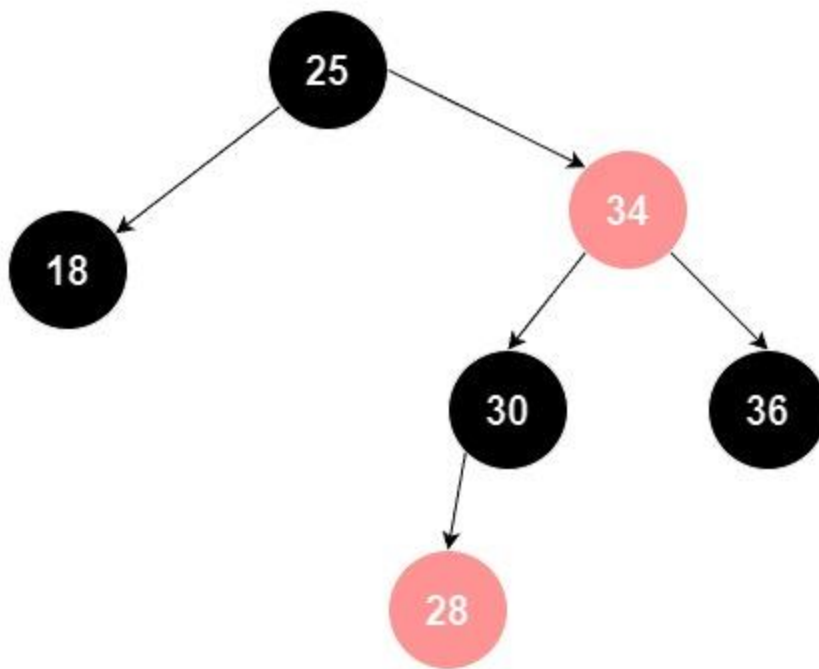


Problem 2

(a) Given the following “Red-Black tree”, indicate the color of each node with letter R or B.



Group members: Marwane Bidamou (4), Eduard Koshkelyan (8), Roshan Maharjan (11)



(b) Insert the key 29.

